

Remarks

Claims 1-51 were originally filed in this application.

Without prejudice or disclaimer, claims 39-51 were previously withdrawn from consideration as being directed to a non-elected invention. Also without prejudice or disclaimer, claims 39-48 and 50-51 were canceled to facilitate prosecution of this application. Claims 52-61 were previously added without introducing new matter; but were considered to be directed to a non-elected invention and consequently constructively withdrawn from consideration. Claims 34-38 were also constructively withdrawn from consideration as being directed to a non-elected invention. Independent claim 49 is rejoined with the pending claims.

Claims 1, 8, 9, 10, 18, 20, 32, and 49 are currently amended without introducing new matter. Support for the amendments can be found throughout the originally filed specification, claims, and drawings. For example, the subject matter of originally-filed dependent claim 4 relates to a treatment system comprising a point of entry fluidly connected to a reservoir; and the subject matter of originally-filed dependent claim 6 relates to a point of use fluidly connected to a reservoir. The subject matter of originally-filed claim 31 relates to a method comprising delivering a liquid to a point of use. Other exemplary instances can be found at lines 1-3 on page 7, lines 11-18 on page 8, lines 28-31 on page 9, and lines 20 *et seq.* of the specification, with reference to FIGS. 1 and 3, as originally filed.

Without prejudice or disclaimer, claims 4, 6, and 31 are canceled to facilitate prosecution of this application.

As a result, claims 1-3, 5, 7-30, 32-33, and 49 remain pending, with claims 1, 10, 20, and 49 being in independent form.

Election/Restriction

Claims 34-38 and 52-61 are withdrawn from consideration as being directed to non-elected inventions.

Applicants respectfully request reconsideration and rejoinder of at least claims 34-38 with the pending claims because a search and examination of the respective subject matter of each of the pending claims would likely be pertinent to a search and examination of the respective subject matter of each of claims 34-38.

Rejections Under 35 U.S.C. § 103

Claims 1-33 and 49 were rejected under 35 U.S.C. § 103 as would have been obvious over the disclosure of Rela in U.S. Patent No. 6,607,668 B2 (hereinafter “Rela”) and further in view of the disclosure of Sato in EP 1 172 145 A2 (hereinafter “Sato”).

Applicants disagree that the respective subject matter of each of claims 1-33 and 49 would have been obvious over Rela in view of Sato because no proper *prima facie* case of obviousness has been presented.

Even if the references could have been combined, the *prima facie* case of obviousness is improper for failing to recite each and every limitation in the manner claimed.

Each of Rela and Sato fails to disclose a treatment system comprising an electrochemical device comprising a first compartment with a first compartment inlet and a first compartment outlet, and a second compartment with a second compartment inlet and a second compartment outlet; a first liquid circuit fluidly connecting the first compartment inlet to the first compartment outlet through a liquid reservoir and a first pump. Neither of these references discloses a treatment system comprising a point of use fluidly connected to an outlet of the liquid reservoir. Each of Rela and Sato also does not disclose a treatment system comprising an electrochemical device fluidly connected to a point of entry, and comprising a first compartment comprising a first compartment outlet and a first compartment inlet, and a second compartment comprising a second compartment outlet and a

second compartment inlet; and a water reservoir fluidly connected to the point of entry and to at least one of the first compartment inlet and the second compartment inlet. Each of the cited references also fails to disclose a method of treating a liquid comprising establishing a first liquid circuit having liquid to be treated flowing therein from a reservoir to a first compartment inlet of an electrochemical device through a first pump. Neither of the references also discloses a method of treating liquid comprising delivering at least a portion of liquid from a reservoir to a point of use, or a method of facilitating water purification comprising fluidly connecting a point of use to a water reservoir.

Although Rela discloses a reservoir, Rela explains that the pure water reservoir 12 provides a high velocity water stream in a direction opposite the flow of supply water through the tubular element housing of sediment pre-filter module 10. (Rela at column 5, line 66-column 6, line 8.) Thus, reservoir 12 serves to store water but is not fluidly connected to an electrochemical device nor provides water to an electrochemical device, nor to a point of use.

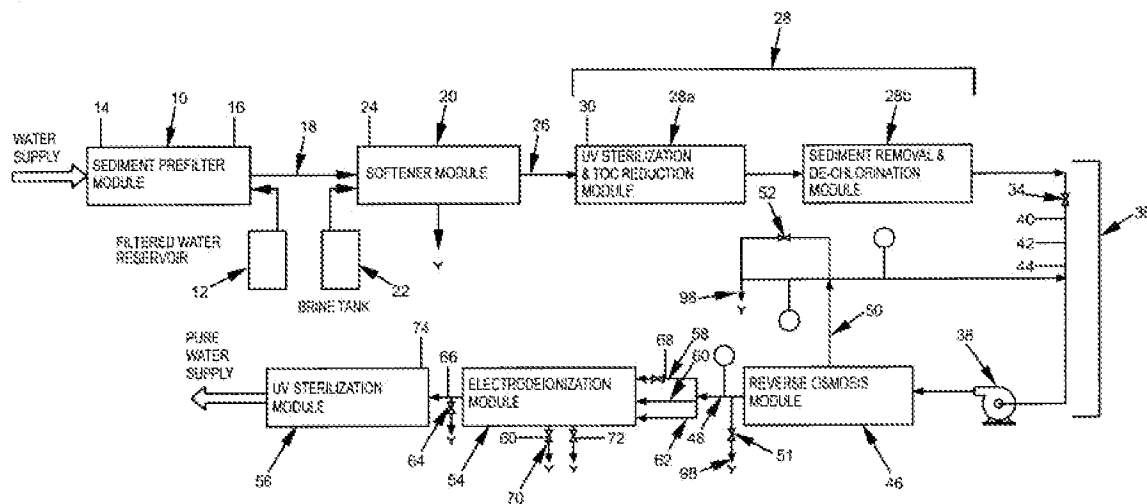
Because any combination of Rela and Sato would fail to disclose each and every limitation in the particular manner respectively recited in each of independent claims 1, 10, 20, and 49, the alleged *prima facie* case of obviousness is improper.

The respective subject matter of each of the claims dependent from independent claims 1, 10, and 20 would also not have been obvious for at least the same reasons.

Further, as previously noted, Rela discloses a water purifier using serially connected unit operations involving membranes, ion exchange resins, reverse osmosis modules, an electrodeionization module, and an ultraviolet sterilization module, to remove ionic, organic and suspended impurities from water to produce high quality, pure water. (Rela at Abstract, FIG. 1, FIG. 3, and column 5, lines 41 *et seq.*) A control system (not shown) calculates the required electrical voltage and current required by the electrodeionization module and automatically adjusts each to achieve optimum water quality. (Rela at column 10, lines 24-46.)

Notably, Rela explains that permeate water from the reverse osmosis module 46 separately introduced into the electrodeionization module in three distinct process streams; a product stream 58 for producing the purified water, a concentrate stream 60, and an electrode stream 62. (Rela at column 10, lines 7-11.) Control valves are utilized to adjust the respective flow rates of each of these process streams. (Rela at column 10, lines 29-39.)

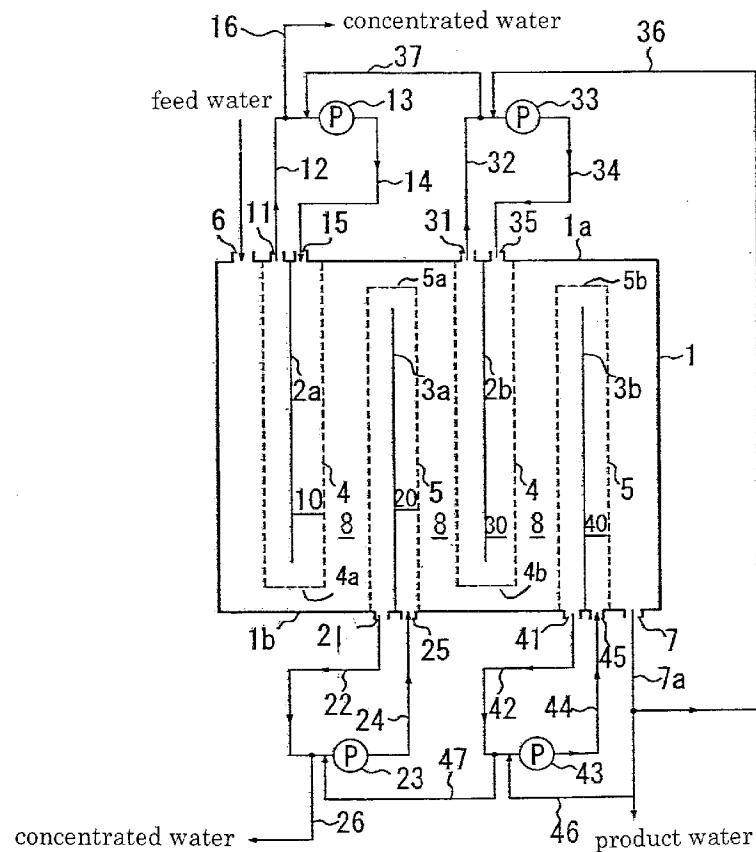
FIG. 1



Sato discloses an electrodeionization apparatus wherein feed water is fed through an inlet 6 into a desalting compartment 8, flows around an end 4a of an anion exchange membrane 4, which surrounds an anode 2a; the feed water then enters into a portion defined between the anion exchange membrane 4 and a cation exchange membrane 5, and further flows around an end 5a of the cation exchange membrane 5, which surrounds a cathode 3a. (Sato at paragraphs [0028] *et seq.* with reference to FIG. 1, which is reproduced below.) The water then further flows around ends 4b, 5b of ion exchange membranes 4 and 5 surrounding another anode 2b and another cathode 3b, and then flows out through a product water outlet 7. (Sato at paragraphs [0038]-[0039].) A part of the product water is supplied to the concentrated water circulating within the concentrating compartments 30 and 40. (Sato at paragraphs [0038]-[0040].) A part of the concentrated water flowing out of the concentrating compartments 30 and 40 is added to concentrated water circulating within the concentrating

compartments 10 and 20. (Sato at Abstract and at paragraphs [0028] *et seq.*) Sato explicitly seeks to reduce silica concentration in the concentrated water in the concentrating compartment nearest the outlet. (Sato at paragraphs [0011] and [0042].)

Fig. 1



No valid *prima facie* case of obviousness has been presented because one skilled in the art would not have been motivated to modify the system of Rela with the system of Sato.

As noted, Sato discloses an electrodeionization apparatus configured to address silica removal. Rela requires that the reverse osmosis module be disposed upstream of the electrodeionization module to soften water introduced into the reverse osmosis module and the electrodeionization device. That is, Rela's system removes hardness species that would otherwise precipitate or form scale, such as silica, in the reverse osmosis module or the

electrodeionization module. One skilled in the art would also have recognized that because Rela's electrodeionization apparatus is disposed downstream of the reverse osmosis apparatus, it would not have scaling or silica removal concerns, and any advantages associated with incorporating systems that are directed to silica removal, such as the apparatus disclosed by Sato, would be irrelevant. Because there is no identified need to solve a silica problem in the electrodeionization device of Rela, one skilled in the art would not have relied on Sato's disclosure. (See Esai Co. Ltd. v. Dr. Reddy's Laboratories, Ltd., 2007-1397, -1398, Fed. Cir., July 21, 2008 (There must be a discernable reason for a skilled artisan to begin with an advantageous feature noted in the prior art reference and ignore the very feature that gave the advantageous property.)) Further, because Sato's device requires serially connected concentration compartments, modifying the approach involving independently controlled process streams disclosed by Rela would not necessarily produce predictable results and would require more than routine experimentation. Thus, it would not have been *prima facie* obvious to simply incorporate Sato's device into Rela's system. (See KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727 (2007) (an invention may have been obvious if there was a need to solve a problem and a finite number of identified, predictable solutions).

For at least the reasons noted above, the alleged *prima facie* case of obviousness is improper.

Because claims 4, 6, and 31 have been canceled, the rejection as to these claims is rendered moot.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-33 and 49 under 35 U.S.C. § 103 is respectfully requested.

Conclusion

In view of the foregoing Amendments and Remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes that the application is not in condition for

allowance, the Examiner is requested to call Applicants' attorney at the telephone number listed below.

If this Response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this Response, including an extension fee that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762 (ref. no. I0168-708219).

Respectfully submitted,
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